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CANCER OF THE CERVIX; A PLEA FOR ITS EARLY DIAGNOSIS.

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According to Prof. Wilson of Birmingham (I), among individuals of the age of 35 and upwards one male in every twelve, and one female in every eight, dies of cancer. In the female the uterus is the site in nearly 30 per cent. of the total number of cancers; so that among women living at the age of thirty-five and upward, one in twenty-seven, or nearly four per cent., will eventually die of cancer. Cancer of the various organs of the human occurs in all continents and among all races, no matter what their condition of servitude may be. It is no respecter of persons, and the rich and poor alike are subject to it; it occurs as often in the negro as it does in the caucasian; neither does it slight the young.

Cancer of the cervix appears most commonly between the ages of forty and fifty. In a series of cases (6071) reported by Koblanck 33.7 per cent. occurred between the ages of thirty and forty and 24 per cent. occurred between thirty and sixty. Occasionally cases are seen later than sixty and earlier than thirty. Graves saw one at twenty-five years and Cragin reports one at the age of eighteen. Cancer of the cervix has a very constant and definite etiology, in that it occurs almost exclusively in the cervices that have some inflammatory or traumatic lesion, usually the result of childbirth. It is estimated that 95 to 98 per cent. of women with cancer of the cervix have had children and the greater majority have been multiparous: and those cases—(I) New System of Gynecology, Lockyer and Eden: Vol. II, p. 421—which show an ectropion of the cervical membrane, or an erosion of the lips, have a special predisposition for cancer. The most commonly accepted cause for this condition is a lacerated cervix uteri. Why cancer is rare in procidentia, is answered by supposition that the epidermis becomes so thickened and hypertrophied in this condition that it acts as a protection.

The symptoms of cancer of the cervix in its incipiency are so treacherous and come on with such slight evidences that it behooves us to be more on the lookout for it than we are. In the early stages of cancer of the cervix there are no definite symptoms to arouse our suspicion and consequently the disease is often far advanced before any alarming signs occur. The three cardinal symptoms of cancer of the cervix are: (1) leukorrhea, (2) bleeding, and (3) pain, in the order named. In the early stages the vaginal secretion does not differ from one due to hyperemia except as to quantity, but later on the discharge assumes a watery consistency, which is quite characteristic of cancer and is one of the chief clinical signs and should arouse suspicion, and call for a very thorough examina-

tion at once. In the later stages still, when necrosis and infection take place, the discharge becomes exceedingly foul and the odor nauseatingly characteristic. Bleeding is the next most prominent clinical symptom and from the fact that it is usually venous, is no particular menace to life. An important sign is the very free bleeding upon the slightest manipulation, and does not exist in the same degree in any other condition. Pain, the third symptom, is of no diagnostic value in the early stages, since it is only the announcement that the disease has ceased to be limited to the cervix and has passed into the parametrical tissues and adjacent lymphatics.

Far too many physicians place too much stress upon the "change of life" and attribute symptomatology to it which does not belong there. How often women come to the family physician with the suggestion that they are having "change of life" and they want something done for excessive bleeding which is dragging them down. An examination shows to our amazement a large bleeding fungous mass, bathed in a foul-smelling, nauseating, purulent discharge. One glance at the condition tells us that we have a cancer of the cervix, far advanced and usually beyond hope of cure, and all because this woman was not advised properly by her doctor, or if she was it was not stressed enough. Perhaps she had been told by some physician that she was merely having the "change of life"—and she was having a change of life, for she was very rapidly changing from the mortal to the spiritual one, all because of false advice. Had she been forcibly reminded by her medical advisor of the probable dangers to her from cancer, at every opportunity, she might have been saved, in all probability she would have been. Since it is now generally accepted as a fact that cancer in its early stages is a local disease, primarily confined to the tissues affected, if it be removed or destroyed while still confined to these tissues, it should be, in fact it will be cured. Knowing this to be a fact, can there be any excuse for any physician in this day of enlightenment to neglect to examine his patients and make the diagnosis while the disease is yet a local one, and amenable to surgical procedure? We know that the complete excision of the most virulent form of cancer, while it is yet a local condition, will in all probability be a stop against its recurrence. The question comes to the writer, How long does cancer remain a local disease? No one in the world can answer that question, as the time is a variable one, depending on the malignancy and the variety of the cancer, as well as on the resisting power of the individual. Recent observations have shown that some varieties of cancer have a very short period of localization, and that all forms are shorter in duration than we formerly supposed. No one can say anything about the resisting power of the individual; one's resisting power may be good this day and the very next it may be very low, in fact it may change from hour to hour. We do know that certain bodies have a good resisting power against disease while others have a poor one, but up to now no scientist has been able to tell us a way of measuring that power.

The life destroying power of cancer is measured by its ability to extend into the lymphatics and blood vessels, and adjoining structures, thus progressing from a local to systemic disease. For this reason, if for none other, it should be our bounden duty to prevent this condition taking place, for no systemic cancer ever got well or was cured by operation. Knowing as we do, that instead of years or months before the disease breaks down the protecting barriers and becomes systemic, it may be only weeks or even days or hours, are we not guilty of the grossest negligence if we do not strive to so make ourselves better and more careful diagnosticians, so that we may be able to give the proper advice at the proper time, and thereby save a life that may be very necessary to the welfare of a large family. I am of the opinion that the profession as a whole is learning the value of an early diagnosis in this condition and that fewer cancers are coming to the surgeon, where the parametrium is involved. Still, there is plenty of room for improvement along the line of early diagnosis, and many men are still permitting their patients to walk in the valley of the shadow of death, by failure to give them a

careful examination on every occasion, when there may be the slightest chance that they have incipient cancer. There are not enough vaginal examinations made by the family physician on his child-bearing patients and not enough advice about the dangers of cancer. Too many physicians do not keep records enough and do not get thorough histories from their clients. They look at the tongue, feel the pulse, look wise and then proceed to write a prescription for H. V. C. or liquor sedans and forget about the case until it comes back again with all the signs of a fully developed cancer, beyond the only known cure, viz: surgery. Had this patient received the proper examination at the time of the first visit, the condition would in all probability have been found and the proper advice given, and another victim of carelessness or ignorance would not have gone to an early grave.

It always was a wonder to the writer why so much commotion was caused in a neighborhood when the doctor failed to diagnose an obscure incipient contagious disease, and how little was said if he failed to diagnose an early cancer of the uterus. Just let some doctor make a mistake in the diagnosis of smallpox in its early stage and see what a howl is set up, and yet cancer of the uterus kills more women than does smallpox, and the early diagnosis is easier than that of early smallpox.

The writer is convinced that we do not take the people into our confidence enough, and this brings us to the realization that this must be done as forcibly as we know how, by constantly telling every one, at every chance, of the dangers of cancers in the child-bearing woman. Make it so forcible that they will take it home to ponder over. Cancer of the womb robs more homes of useful wives and mothers, at their most active and useful period of life, than does tuberculosis, so do you not think that the family physician who is in a way the custodian of these lives, should realize his responsibility and trust more fully than he does? Only an ignoramus does not know at the present time all that is necessary to know about cancer of the womb in order to have his suspicions aroused and, then if he fails to do his duty, he is meriting the contempt of every modern physician. The medical profession has a bounden duty to perform and that is, face the question fairly and squarely, and meet it with a determination to stamp out inoperable cervical cancer. The man who calls himself a specialist in diseases of women, and there are many incapable ones, should be able to give a resume of all the facts about cancer. He should emphasize the fact that cancer of the uterus is inevitably fatal without early recognition and proper treatment, and that proper treatment is complete removal before the disease becomes systemic, for the mortality of systemic cancer is 100 per cent.

In every case before metastases has taken place, the mortality is but 25 per cent., and in the very early cases the death rate will be about nil. In many cases the failure to diagnose the case early lies directly with the woman herself, who delays examination or declines to permit one being made when urged to do so, but this does not relieve the doctor entirely from responsibility, for had he frequently impressed her with the dangers of the various cervical lacerations and leukorrheal discharges, she might have possibly been brought to a realization of the possibility of cancer taking place.

If the people are ever going to know the facts about cancer of the womb, these facts must come from the physician, and the family advisor is the proper one. The commoner symptoms of the disease must be taught the woman, and these should be impressed on her mind at every occasion. Next in importance to teaching them that there is a way at their command to definitely determine in nearly every instance whether they have cancer or not, is to teach the public more about it. If it is cancer, the woman should be told so, without equivocation or faltering, not to scare the life out of her, but to scare life into her. The doctor who advises his patient who has one single sign of cancer, "to wait awhile and see," is criminally inefficient. There should be nothing but contempt for the doctor who sends his patient away without making a vaginal examination, giv-

ing her a vaginal douche, and a snapshot diagnosis of "change of life" or some other equally absurd diagnosis.

Still, the Cancer Commission of the great State of Pennsylvania for the year 1912 shows that of the developed cases of cancer of the womb that consulted physicians, 10 per cent. of them never had a physical examination made, and 20 per cent. of those had been given worse than useless advice. If this can happen in this highly enlightened and populous state, where the glare of the sun of twentieth century knowledge shines brightest, what would be the results of an investigation in less favored communities? Let us therefore resolve that in the future we will more faithfully and more carefully take up the burden of cancer of the womb and give it more thought, more study, more talk, so that in the end we may save lives now so ruthlessly lost. To that end only shall we have done our duty to our patients, to our profession and to the people.

Conclusions.

Since cancer of the womb is curable in the period of localization, and this being the time when the symptoms are so insidious, we should endeavor to place in the woman's hands some literature which would assist her in coming to the conclusion that there is something wrong, and she should consult her physician and tell him her troubles at once.

To this end the writer would suggest that the State Society, through a committee, issue a small pamphlet on this condition which should be elementary in character, so that it could be placed in every home and could be read and understood by the laity.

GONORRHEAL EPIDIDYMITIS

A. B. James, Toronto, Canada (*Journal A. M. A.*, May 24,1919), says that the war has given a special opportunity for observing cases of gonorrheal epididymitis in army practice. The incidence is given by various writers as from 10 to 25 per cent., and was 15 per cent. the last year at the Canadian Special Military Hospital at Etchinghill, England. The cases show a longer stay in the hospital than other complications of gonorrhea. He has observed two distinct types: first, the subacute, coming on slowly with slight pain or constitutional symptoms, slight enlargement of the epididymis and little redness and edema of the scrotum. Such cases rarely develop into the second or acute type, in which the symptoms are much more severe. The infection may travel by direct extension from the urethra, as held by most observers; through the lymphatics, which James considers most frequent, or by way of the blood, which is least likely. The pathology of the condition is described, and James finds the globus minor most frequently involved. The advantages of surgical procedure in all types are numerous, and the author considers the operation justifiable, though it is only for the relief of pain. He reviews the objections to epididymotomy, but he says it is simple and should take only a few moments. He notices the opinions of other authors on the subject, and says nearly every contributor agrees that the operation tends to minimize the chances of sterility. In his series of 115 cases of epididymotomy, twelve were bilateral, six of which showed living spermatozoa, and he believes that, with longer observation, this number would have been increased. He describes his operative technic. In advanced cases he advises general anesthesia, on account of the dense adhesions that have formed. His conclusions are as follows: "1. Early operation is advised to prevent destruction or occlusion of the tubules. 2. The pain is relieved almost immediately by surgical interference. 3. The process is considerably shortened. 4. No accurate conclusions as to sterility may be made except in bilateral cases, but present evidence favors epididymotomy as a means of preventing sterility. 5. There is less liability of a relapse of the urethritis. 6. The operation should be more generally employed."

THE PREVENTION OF CANCER.

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A great deal has been written about the etiology, pathology, and treatment of cancer, but not a great deal about prevention. There is no field in medicine where the correlation of facts is of more importance than in the study of cancer. The collection of statistics, relative etiology, pathological findings, and treatment should receive more painstaking effort.

Cancer is one of the most dreaded diseases that effect the human family. It does not make any great progress toward spontaneous recovery, and little can be done for the disease when far advanced. Cancer is often cured in the incipient stage by proper treatment. This, however, is, unfortunately, true only in a small percentage of cases. Owing to a lack of diagnostic ability, the great number of cases go on to the incurable stage. Hence, it is useless to attempt radical operation in these late cases.

It is extremely difficult to draw correct conclusions concerning the distribution of cancer, owing to the unreliable manner in which vital statistics are secured. The greater accuracy in the compilation of the causes of death show a higher mortality. This will account, in a measure, for the belief that cancer is so prevalent among uncivilized peoples.

A fairly accurate compilation of statistics has been made so that one can estimate conditions as follows:

In the United States approximately 5 per cent. of the deaths after the age of thirty are due to cancer.

England, out of a total of 141,241 deaths of males over 35 years of age, in 1907, shows that 12,695 died of cancer, and out of 140,607 deaths of females over 35 years of age, 17,671 died of cancer.

Switzerland has a more accurate way of obtaining the death rate. There the death rate from cancer is estimated at 0.129 per cent.

Holland attributes 0.101 per cent of the death rate to cancer.

The figures in Spain, Hungary and Latin-American countries are unreliable.

The yearly increase in the mortality from cancer has an important bearing upon the question of the public health and the economic welfare in all civilized countries. W. Roger Williams ("Natural History of Cancer," 1909) states that there has been a yearly increase in the cancer death rate from three to five per cent during the past twenty years.

The statistical evidence obtained from the autopsy table presented by various authorities, in every country, lays at rest any doubt as to the increase of cancer. It is maintained that cancer increase is limited to certain organs, while other organs have not shown any perceptible increase.

Bashford has shown for England that cancer of the uterus is decreasing while cancer of the gastro-intestinal tract has slightly increased. The accuracy of reports of various authorities in England, United States, Switzerland, France, and Italy is of considerable importance from a statistical view point.

It is a self-evident fact that cancer is a disease of decadence, and should be attacked as early as feasible. Cancer is a disease that rarely attacks before the age of thirty, and in the majority of cases occurs between fifty and sixty years of age.

In the study and prevention of cancer, the etiological factors must of necessity be kept uppermost in mind.

A paper on "The Relative Etiology and Pathology of Cancer" (Journal Oklahoma State Medical Association, July, 1918) offers in its conclusions a graphic guide to both physician and surgeon. It unfolds step by step the etiological and

pathological factors in cancer. A thorough study of this paper will enable the physician to grasp an idea of the logical procedure in the prophylactic treatment of cancer.

Diet and hygiene are factors not to be overlooked in the prophylactic treatment of the disease.

Heredity influences should be attacked by keeping the individual in the best physical and mental condition. This often may be accomplished by removing some chronic focus which has proved fatal to the progenitors of the individual. Decadence must be warded off by clean living and proper care of the physical being. Especial attention should be given those organs most frequently subject to continuous irritation. Acute local conditions should never be allowed to become chronic. Cancer is non-inoculable and non-communicable, but that does not obiviate the fact that certain acute local conditions if allowed to become chronic will eventually become cancerous.

The logical sequence of this fact establishes the necessity of removing all ulcers of the stomach; all precancerous growths in the breasts; all lacerations and chronic ulcerations of the uterus; and all chronic ulcerations of the rectum. Gallstones if not removed most always cause cancer. Any precancerous condition of the mouth, tongue, and throat should be removed at the earliest possible moment. All moles, warts, and other growths of like nature upon the body should be removed. Any condition in any part of the body suspected of being precancerous should be removed, provided it does not shorten the life of the patient. Any practice, creed, or sect that teaches other than the radical treatment of cancer should be prevented from exercising their practice or teaching by due process of law.

Persons suspecting a cancerous or precancerous condition should consult a competent physician every three months.

Cancer hospitals should be established by and in every state and territory.

STREPTOCOCCIC INFECTIONS

W. B. Blanton, C. W. Burhans and O. W. Hunter, Camp Custer, Battle Creek, Mich. (*Journal A. M. A.*, May 24, 1919), report on the streptococcic infections observed at Camp Custer, since its establishment. Sixty-five per cent of the acute infections coming to necropsy have been due to these. Excluding the month of October, 1918, when influenza was epidemic, 75 per cent of the fatal acute infections were from this cause. The camp was several months old when they first appeared, chiefly as secondary infections. Two methods of invasion are to be considered; first, such as occurs after a sudden, severe antecedent disease has lowered the patient's resistance, and, second, such as occurs when the virulence of the streptococcus is the principal determiiung factor. The authors give in detail the conditions and incidence of these infections and summarize as follows: "1. Streptococci as observed at Camp Custer have manifested themselves almost uniformly as secondary invaders. 2. It is impossible to divorce a discussion of streptococcic infection from such antecedent diseases as influenza, measles and the acute upper respiratory inflammations. 3. Important factors in the incidence of streptococcic infections and their outcome are disclosed after investigating the effects of length of service, rural and city life, and bodily fatigue and exhaustion. 4. Streptococci have been responsible for a variety of lesions, but their predilection for the respiratory system far exceeds all other localizations."

SOME SUGGESTIONS ON THE CAUSE OF CANCER.

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Quite recently as a result of some of the continous studies on the cause of malignancy, some new conclusions seem to have developed.

In going over the literature on cancer for the past few months this phase of the question appealed to me a little more than any other at this time, except, possibly, the question of metastasis, about which seemingly nothing had been written for some considerable time.

What is contained in this paper is drawn principally from conclusions reached by Leo Loeb, Doctor Spain, Fibiger and Bulkley, from observation on tissue and tumor growth.

Tissue growth is started by external factors, which bring about similar or identical results in the tissue, even though the causes themselves differ. These are considered primary causes and are referred to by most of these men as "formative stimuli" in order to distinguish them from functional stimuli. It may be that both the formative and functional stimuli are the same, acting in a similar manner; the difference in result depending on the difference in strength and time and in the systems on which they act.

The primary causes may be either physical or chemical. The physical are either mechanical or electrical, the rays of which are held by the tissues. The chemical causes are produced somewhere in the organism itself. Even in the case of parasitic organisms the change is partly through chemical agencies which they produce, there may be also a mechanical effect.

Loeb has shown that chemical stimulus brings about changes in the effected tissue. These changes are partly chemical as is shown by increased oxidation and partly physical as shown by increased water content in the cells.

Doctor Spain demonstrated that small quantities of various rays produce stimulation on various tissues, while large quantities cause destruction.

If a strong stimulus be applied to tissues, which are under any otherwise unfavorable condition, an abnormal response takes place with the formation of giant cells, and syncytia. If the conditions of nourishment to these tissues become still more unfavorable, necrosis results.

It seems that these conditions apply both to normal tissues under abnormal conditions and to tumors, but are much more evident in malignant tumor. Further that these same physical factors when acting over a long period, on normal tissue, produce tumors or cancer. Fibiger has found it possible to produce cancer experimentally by the application of physical and physico-chemical factors, as already referred to. Apparently from his report the transformation from normal tissue to cancer was a slow one, passing through several intermediate steps.

The formative stimuli act the same upon tumors and cancers as upon the normal tissues, which makes it seem to me in a measure explain why the cancer mortality under surgical management increased from 63 to 100,000 in 1900 to 81.8 in 1919, or over 28 per cent.

Loeb was able by cuts, incomplete extirpation, transplantation of tumors, etc., to excite new growths in tumors, both benign and malignant; which teaches us that a tumor probably should not be sectioned for examination, unless that tumor be removed quite soon thereafter, also it may explain why following the disturbance, incident in operation, of a small cyst or other tumor we have later developing a malignancy.

Chemical formative stimuli undoubtly play a considerable part in the natural growth and development of normal tissue.

The difference in the growth of certain organs in the young and the old, and

in different races of people, and in the different climates, seems to suggest the difference not only in the chemical substances circulating in the blood which affect the growth not only in normal tissues, under normal conditions, but also the tissues, under abnormal conditions, that is with reference to nourishment, oxidation, etc., but also that there is a varying resistance on the part of the tissues in certain systems against the effect of these chemical formative stimuli. Analagous substances seem to favor growth or delay of tumors in several types of animal life. The amphibia for example. We see from Loeb's reports some indications that during pregnancy tumors may assume large proportion in the rat, while in the mouse, pregnancy seems to exert a very unfavorable influence on the growth or development of transplanted tumors so that it may be in the future that original and secondary, or primary and metastatic, tumors will be considered as separate and distinct things.

The corpus luteum bears a specific relation to the uterine wall and the mammary gland in the normal course of metabolism, also artificially given it has a definite effect upon the ovary in its essential function, that of ovulation. So that this probably comes under the second class, that of metastatic conditions. A Japanese investigator recently in some experiments with corpus luteum on the hen demonstrated beyond question that it has a positive inhibitory action on ovulation. It has been proven experimentally in the case of cancer of the mammary gland in mice that there can be no doubt that these special substances play an important part in changing normal into cancerous tissue. By extirpation of the ovaries at maturity, the spontaneous development of cancer of the breast, so common in certain strains of mice, can be almost altogether prevented.

There is another class of substances which prevent growth, as for example iodine, which according to Marine prevents compensatory hypertrophy of the thyroid, likewise according to Pearl calcium seems to counteract certain effects of the corpus luteum substances, as well as having a tendency to somewhat inhibit the growth of inoculated tumors. Again, certain of these formative stimuli established in the etiology of tumor growth may bring about a converse condition, as for example assuming that heredity forms a part, along this line, the development of stimulus may reach the point where it prevents the growth of tumor for one or two generations, when having lost its power or met new conditions in succeeding generations again acts as a productive factor.

In considering then a fully established cancer, it might be concluded that cancer is tissue growth in which a chemical stimulus probably not very differemt from that necessary to normal development is constantly at work producing changes which accompany all growths. So that internal secretions may be responsible for the production of cancer. It has been an accepted fact for some time that long continued stimulation may produce cancer; whether the chemical stimulus must be transmitted to the cells by an outside agency or whether long continued stimulation of tissue ultimately leads to such a change in the cell that the cell itself is unable to produce continuously the substance, which propagates the growth, is probably the thing yet to be decided.

Of the attempts to unite the various facts into consistent theory of tumor and tissue immunity and growths, only two recent ones seem to have attracted any particular attention, one by E. E. Tyzzer explains the immunity as due to a local anaphylactic reaction, that is, some substance is given off by the tumor cells which combines with the body fluid. The other by Loeb has to do with the mutual chemical incompatibility of the body fluids of one individual with the tissues of the other, which form abnormal products which are induced to produce dense fibrous tissue.

Williams remarks "a mass of evidence could be adduced to show that cancer is a disease of hypernutrition;" this may mean when taken with the findings of others that normal nutrition can be overdone, or that the complex of modern civilization with all its temptations and errors in regard to eating and drinking,

together with the nervous strain and the absence of physical exercise does produce such a disturbance of the normal internal stimuli as to produce new growths.

At any rate the fact remains that while cancer is very infrequent among primitive people and among animals living in the state of nature, it is on the increase in morbidity and mortality with the increase of civilization. There can, therefore, be hardly any other conclusion than that this dire disease depends largely upon the conditions developed by or associated with our artificial existence, to which is given the name "modern civilization".

MALIGNANT DISEASE OF THE LARGE INTESTINE*

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In the development of malignant disease of the intestinal tract there are certain areas of predilection. Notwithstanding the close embryological relationship, the small bowel is not often involved. According to Bland-Sutton, 2 per cent of cancers of the alimentary tract are in the small intestine, while 25 per cent. involve the large intestine. In other words, the relative frequency of cancer of the small intestine to cancer of the large intestine is as two is to twenty-five.

Several theories have been presented in an effort to explain the frequency of development in the large intestine. One of the most familiar is that which takes into consideration the supposed etiological relationship of mechanical irritation. It is pointed out that the contents of the small intestine are in a relatively liquid state, while in the large intestine the contents have been dried out, and as a result, the mucosa receives injuries on account of the constant contact with such material. In support of this theory, it is pointed out that cancer of the stomach is relatively frequent, and that it may be explained in the same way—that is, that the gastric mucosa is repeatedly injured by the coarse mass of alimentary substances before the mass has been changed to a more liquid state by the process of digestion.

Ochsner is of the opinion that the chemistry of the alimentary tract has a good deal to do with the development of cancer. He calls attention to the fact that cancer is found much more frequently where the contents have an acid reaction. On the stomach side of the pylorus the contents are acid, and cancer is frequent. On the duodenal side the contents are alkaline and cancer in that locality is extremely rare. On the proximal side of the ileo-cecal valve the contents are alkaline, while there is an acid reaction on the distal side. In the first locality cancer rarely occurs, while it is relatively frequent in the second. He remarks that every farmer knows that noxious weeds grow in an acid soil, while clover and the useful plants grow best in an alkaline soil.

In the large bowel the places of predilection in the development of cancer are the cecum, the hepatic and splenic flexures, and especially the sigmoid and the pelvic colon. This fact would seem to support the mechanical irritation theory.

Carcinoma is by far the most frequent malignant disease of the large bowel, the sarcomata and the lymphosarcomata being extremely rare.

According to the schematic division by Ribbert, the epithelial tumors—that is to say, the carcinomata—of the large bowel may be divided into three general classes, all of them being composed of cylindrical epithelium: First, carcinoma cylindrocellulare adenomatosum, which is subdivided into (a) solidum, (b) polymorphum; second, carcinoma cylindrocellulare scirrhosum; third, carcinoma cylindrocellulare gelatinosum. Of these three the most frequent in the large bowel, according to Bastianelli, are carcinoma cylindrocellulare adenomatosum and carcinoma cylindrocellulare scirrhosum. The first may be carc. aden. simplex, hav-

*Read in Surgical Section, Annual State Meeting, Muskogee, May 21, 1919.

ing a connective stroma not quite scirrhous, and a non-medullary parenchyma, or it may be carc. aden. medullare, in which case it may form an enormous tumor with ulceration in the center. The lumen of the bowel may not be encroached upon; it may even be made larger by ulceration. Generally, however, there are fungating masses on the inside, and these serve to make the opening irregular and interfere with the fecal current. There is, too, infiltration about the walls which are stiffened and immobile.

In carcinoma scirrhosum there is a small, hard tumor of slow growth. The lumen may be encroached upon to the point of obliteration.

In carcinoma gelatinosum there is a large infiltrating hard growth with a deep ulcerating center, but without fungating masses.

It is pointed out that the insidious character of scirrhous carcinoma makes of it a hopeless condition for the reason that it is already an old standing one when it makes itself manifest, and disastrous metastases have already taken place. The gelatinous form is considered extremely malignant.

Practically, then, with our present knowledge, but little hope is had in any of these conditions save in connection with the adenomatous type, but in this type many patients may be relieved if operated early after symptoms have developed.

In the opinion of Bastianelli, the main questions to be considered, from a clinical point of view, are: (a) The extension of the parietal involvement; (b) visceral metastases; (c) glandular metastases; (d) peritoneal dissemination or grafting.

To ocular examination the parietal involvement may seem to stop abruptly, but Handley has pointed out that the microscope will show cancer cells far beyond the apparent boundary between the normal and the diseased areas.

It is impossible to determine the beginning or the extent of metastasis, for metastasis takes place often as soon as the connective spaces are penetrated. Attention is called to the fact, however, that the largest glands are not always the most dangerous, for the reason that they may be the seat of an inflammatory process, only. The condition of hardness and deformity of glands is much more significant.

To amplify a statement already made, three particular areas may be considered in connection with the matter of location of the cancer. Beginning at the origin of the large bowel, the first area is the cecum and the ascending colon. The second takes in the hepatic flexure, the transverse colon and the splenic flexure. The third area takes in the remainder of the colon down to the rectum, that is to say, the descending colon and the sigmoid, it being understood that the sigmoid embraces the pelvic colon, a term which is now in rather common use, and rightly so. By far the greater number of cancers occur in this third area—that is, the descending colon and sigmoid.

In the cecal region the neoplasm may grow from the ileo-cecal valve, the cecum proper or the ascending colon. They are mostly of the adenomatous type, either simplex or medullary. They are frequently large and often movable. The frequency in this region is second to that in the third region.

Bastianelli groups the principal symptoms as being the expression of two conditions, which he designates mechanical and septic. The mechanical element may be responsible for constipation, chronic obstruction with crises, acute obstruction and invagination. It would seem, however, that obstructive symptoms are not nearly so common in cecal cancers as they are in those of the terminal colon. Desmerest reports 220 cases with chronic obstruction in 20 and acute obstruction in 6, and the reports of other investigators practically agree.

Invagination is reported in about the same percentage of cases, the most frequent cause being the growth of the tumor on a limited portion of the valve or the cecum, and being pushed onwards by contractions of the ileum.

Septic complications may be expressed as fever, anemia, loss of weight, or they may be more direct, as abscess, perforation, peritonitis.

In the second area, malignant neoplasms have a special significance. Notwithstanding the fact that growths of the transverse colon may be found by physical examination much more readily than in any other portion of the large bowel, W. J. Mayo has found that the mortality is very high, probably because the lymph nodes about the head of the pancreas are involved very early.

Cancers of the third area involve the descending colon and the sigmoid, and for all practical purposes, our attention may be directed to the sigmoid exclusively, for it is in this location that the large majority of the left side tumors occur.

Quenu and Duval divide the sigmoid into three zones. First zone, from the descending colon to the brim of the pelvis—the ileo pelvic zone. Second, the pelvic portion of the sigmoid. Third, the zone at the junction of the pelvic colon with rectum, tumors at this point being called recto-sigmoidal tumors.

Van Hook and Kanaval, in an effort to systematize the symptomatology, group the manifestations of malignant processes in the large intestines under four heads:

1. Symptoms due to the progress of the neoplasm in the tissue of the affected organ.
2. Symptoms due to obstruction of the lumen of the intestine.
3. Symptoms due to metastases.
4. Symptoms due to adhesion and ingrowth to neighboring structures.

These authors say that, as a rule, the first symptoms of value are due to ulceration, and are diarrhea, fetid discharge, hemorrhage.

Taking into consideration the fact that cancer of the hidden organs is one of our most formidable problems, it would seem that we ought not to wait for these rather significant symptoms before directing our attention to an investigation with the view of clearing up, if possible, the existence or non-existence of a malignant process.

In studying the histories of these cases, clinicians call attention to several manifestations of importance.

1. Irregularity of the bowels—now constipated, now loose.
2. Soon there develops uneasiness and discomfort of the abdomen.
3. A little later there is pain and tenderness—sometimes colicky pains. Bastianelli emphasizes the importance of repeated attacks occurring somewhat like appendicitis, except as to location of pain.
4. Loss of flesh and strength greatly out of proportion to the pain.
5. If there is ulceration, the appearance of blood stained mucous, shreds, broken down tissue and pus in the stools.
6. The development of anemia as the result of absorption, and the underfeeding on account of poor appetite.
7. Obstinate constipation in those cases in which the cancer is causing a narrowing of the lumen.

As the process advances there are more postive symptoms:

1. Partial obstruction, which, especially if the carcinoma is in lower sigmoid, results in narrow or pencil like stools.
2. Visible peristalsis, which may indicate an almost complete, or a complete obstruction.
3. Complete obstruction, the signs of which will depend upon the location. Anschutz has called attention to the very marked distention of the cecum when the obstruction is low. Even when it is in the lower sigmoid the distention of the cecum may be so great that it is distinctly palpable and may lead one to believe that the pathology is in the cecal region. This has been called *local meteorism* by Anschutz.

Obstruction is more and more frequent the lower the seat of the tumor. In some cases a scirrhous of the pelvic colon may constrict the bowel as if a string was tied about it—*cancer en ficelle*.

In certain cases of great narrowing there may be sudden obstruction on account of the lodgment of a foreign body. A case is recalled in which the patient died as the result of an obstruction that was not operated. Autopsy showed a *cancer en ficelle*. There was enormous distention on the proximal side, and the distended area was packed full of bran, which the patient had been eating to relieve his obstinate constipation, the bran being packed into the tiny opening at the site of the cancer.

In an involvement of the lower sigmoid the sigmoidoscope should be used after the technique of Hanes of Louisville. In this way the lower part of the sigmoid may be examined. The x-ray is invaluable, particularly if there is narrowing.

Attention is called to the fact that benign tumors are rarely found in connection with the intestinal tract. Any evidence, then, pointing to tumor formation should lead one to suspect malignant disease. However, benign or mixed types are occasionally found. Grossly considered, a differential diagnosis may be impossible.

A brief history in the case of a patient recently operated for a neoplasm of the terminal pelvic colon may be of interest.

Mr. C. L. W. White, age 52, dealer in automobiles, consulted me February 21, 1919, his principal complaint being frequent desire to defecate, the desire being preceded by pains in the lower abdomen.

The patient declared that he had always been well, with the exception of piles for which he had some kind of an operation seven or eight years ago, without complete relief, and an attack of pyorrhea for which he was treated about a year ago.

About four or five weeks before the consultation his mouth became sore. Having had pyorrhea he thought that was the trouble, and he, on his own responsibility, took some kind of ipecac tablets and a patent cathartic medicine, and other cathartics. He insisted that he was not constipated, the cathartics being taken under the impression that they would be of service in curing the sore mouth.

About the same time he began this treatment he noticed pains about the hips, but more pronounced about the left hip. He consulted a physician who told him that he had "rheumatism".

A few days after first noticing the pains about the hips there developed a frequent desire to defecate. At first the desire was not associated with pain, but gradually the desire became more frequent, and accompanied by sharp pains in the lower abdomen and in the rectum, the latter symptom being dwelt upon by the patient, obviously for the reason that he had had piles seven or eight years before.

At the time of the examination he complained of "continual aching" in the lower abdomen, and of a desire for the bowels to move ten or twelve times a day, there being but little discharge, and sometimes no discharge at all.

The patient had a good appetite, but he said that the taking of food was followed in five or ten minutes by a desire for the bowels to move.

The patient stated that he had not observed blood in the stools, that he had not passed black stools, but that he had had a few evacuations that looked like "undigested watermelon".

Apparently his general condition was good. He had not lost weight. The blood pressure was 124-80. The reflexes, the pupils, the station were normal. The teeth and gums were fair. The head, neck, chest, extremities, negative. The back, the kidney areas, the sacro-iliac joints were negative. Aside from a little tenderness over the right external ring and extending to a point to the inner side of the crest of the right ilium, the abdomen was negative to physical examination. No enlargements could be felt; no tympany could be made out. An

examination of the rectum for six inches was negative. There were several small piles of neglible importance about the anal margin.

At the time of the first examination it was suspected that the patient might be developing a malignant tumor along the course of the intestinal tract, but the diagnosis was not clear.

The patient was sent home with the suggestion to his physician to have him return in a week or ten days, if the symptoms were not relieved. He did not return until April 5th when the picture was an entirely different one. He related that he began to pass blood soon after the former examination; that his diarrhea had been worse; that he was losing weight and that he felt very bad.

A physical examination showed that he had a little stiffness of all the abdominal muscles, and there was a little tenderness in the lower part of the abdomen, more particularly on the right side. His pulse rate was 80, blood pressure 114-75. He was sent to the hospital and a consultant was asked to see him. At first the consultant felt very strongly that the patient might have an amebic dysentery, but a careful examination of the stools was negative. The stools, in fact, were practically normal. Although examined several times, there was no occult blood found. The gastric examination was negative. The examination of the urine was practically negative. The blood examination showed 80 per cent. hemoglobin, R. B. C. 4,200,000, W. B. C. 12,200, polynuclear 63, lymphocytes 34, eosinophiles 1. A Wassermann was negative.

Another consultant was asked to make a proctoscopic examination. He reported the findings negative.

Finally some x-ray plates were made, first with the injection into the rectum. The plate showed that the injected material ballooned the rectum and extended but a short distance into the pelvic colon. Another plate made twelve hours after the ingestion of a chemical meal showed a distinct narrowing at exactly the same point indicated by the rectal injection. It may be remarked that the various laboratory examinations were negative with the exception of the x-ray, which gave very positive and very important information, for upon the x-ray findings a diagnosis of a neoplasm in the pelvic colon was made.

Operation disclosed a large tumor at the extreme lower extremity of the pelvic colon and involving the bowel for a distance of about six inches. Grossly, it was an adenomatous carcinoma. What seemed strange at the time was that there were no enlarged glands found in the neighborhood, but there were many small papillomata scattered over the adjacent peritoneal surfaces. The tumor was adherent to the bladder and to the coils of the small intestine which had fallen down about it. There was also a rather broad attachment to the omentum. The pathologist reported that the tumor was a myxadenoma.

References

1. Malignant Disease of the Large Intestine, by Bastinelli, reported in the proceedings of the International Congress of Medicine, London, 1913.
2. Principles and Practice of Surgery, by A. P. C. Ashhurst.
3. Section on Malignant Disease of the Intestinal Tract, by J. Garland Sherrill, Louisville, Ky., in reference Handbook of the Medical Sciences, 1914.

Discussion

Dr. A. L. Blesh, Oklahoma City: The discussion of Dr. Long's paper was an honor thrust upon me. I did not have the pleasure of seeing the paper before coming here, and have just now heard it read. To my mind the great lesson here is that of early diagnosis. Under the relations at present existing between the medical staff of the hospital, its laboratory, the full power of the latter is not available as an aid in clinical diagnosis for the simple reason that the average patient is financially unable to meet the expense. This radiograph most beautifully emphasizes the lesson that it should have been made earlier. It is to be said for our Government, that it not only equipped its hospitals liberally, but

insisted—yes, ordered—that the equipment be used. No doubt a radiograph taken when this patient first consulted the essayist would have located the seat and nature of the trouble at a time when the surgery of it would have been much simpler, and the results correspondingly better. Every neoplasm of the sigmoid colon should be looked upon with a strong suspicion of malignancy. A closer relationship must be established between the laboratory and the staff, in the patients interest.

Dr. Long, closing: I thank you very much for your kind references to the paper in general, but since the criticism has seemed to develop about the case operated:—When this man presented himself you will remember he was in good general condition. He had frequent bowel movements, but there was nothing about him particularly that would indicate at that time, very strongly, that he had a neoplasm. With the exception of this disturbance, he seemed to be in good general condition. A consultant thought it was a case of dysentery, which seemed to have a good basis, and I thought ought to be investigated very carefully. When he came back to the hospital he had taken bismuth and it was sometime before we had his stools in condition so examination of the stools would be conclusive. When he came back to the hospital the second time—or was sent to the hospital at that time—he had lost some weight, but was not anemic. He had not been eating much, because when he would eat it would make him feel bad and his bowels would act pretty soon. Finally, investigation developed he had a neoplasm.

Answering another question that was raised by one of the gentlemen kind enough to discuss the paper, I think that the statement that was made in the paper was that among the different manifestations of malignant diseases of the intestinal tract would be manifestations due to extensions in the organ involved, due to visceral and glandular metastases and so on. One ought not expect these things in the early cases. It was simply mentioned that these things happen later. It is possible they may happen where they are not very apparent. It is usually too late to do anything for the patient when they exist, and it was not mentioned as a matter upon which we should base a diagnosis in the early case, because these things occur late, and when they occur it is usually too late to do anything particularly for the patient.

NOTE.—The patient referred to aboue returned to hospital June 16, 1919, with symptoms of intestinal obstruction. A large, somewhat nodular mass was made out by palpation. It seemed to practically fill the abdomen. Abdominal section disclosed an enormous neoplasm involving omentum and intestinal coils. Numerous papillamata were scattered over the peritoneal surfaces. The clinical diagnosis of carcinoma seemed to be only too clearly supported.

A cecostomy performed with difficulty, on account of the extensive involvement limiting mobilization, gave temporary relief. The patient died today (July 3, 1919). An autopsy was done, but the report of the pathologist is not yet in my hands.—Author.

ABDOMINAL SPONGE

Accidents will happen, and out of 27,250 abdominal operations at the Mayo Clinic during the last five years, thirteen were for the removal of sponges left in the abdomen. In most of the cases the patients were from rural districts, and had probably been operated on for acute conditions by general practitioners with very mediocre assistants. This is the statement of J. C. Masson, Rochester, Minn. (*Journal A. M. A.*, May 31, 1919), who remarks that the only wonder is that there are not more such accidents under such circumstances. The patient usually recovers after a stormy convalescence, but has a persistent sinus left, and while he has to thank the original operator for saving his life he will seldom hesitate to sue for unlimited damages, if he learns the facts. Masson, therefore, has the sponges made with a silver ring placed around the base of the tape and firmly sewed to both sponge and tape with strong thread. If a sponge is reported missing, its whereabouts will be indicated by the metal band, as show by roentgen ray. In hospitals this procedure should be especially applicable.

THE DIAGNOSIS OF CANCER.

A Plea for Greater Care in Examination.

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Statistics quoted by Ewing in his *Neoplastic Diseases* show a remarkable increase in the recorded deaths from cancer during the last fifty years. In England in 1840, one of every 129 deaths reported was from cancer, while in 1905 the ratio had risen to 1 in 17. Ewing believes, from an analysis of the data, that there has been little if any increase in the actual incidence of cancer, and that the apparent increase is due to improved methods of diagnosis and to the longer tenure of life dependent upon the rapid strides of preventive medicine, improvement in hygiene, and more efficient methods of treating disease. In the more progressive countries during the same fifty year period the increase in the average expectation of life ranges from ten to twenty-five years. This is equivalent to saying that the majority of mankind, instead of dying before middle age, as was the case a generation ago, now attain to the years when cancer is more prevalent. Riechelman states that in Berlin hospitals in 1902 there was room, through improved diagnostic methods, for a 20 per cent. increase in cancer deaths.

Although there may be doubts as to whether there is an increase in the incidence of cancer at a given age as compared with former years, there can be none that cancer is one of the leading factors in the mortality tables, indeed crowding close to the top of the list in middle life and old age. It is also clear that in the past the diagnosis of cancer has been grossly unsatisfactory, and that even now there is abundant room for improvement along this line.

Aside from prophylaxis directed against predisposing and irritating factors, the only way in the present state of our knowledge of the subject in which we can improve the statistics is by the complete eradication of the diseased tissue, which depends upon treatment while the disease is still localized, which depends upon early diagnosis. It behooves us, then, as physicians to do our duty in the premises by making every effort of which we are capable to take this first and essential step.

Leaving out of consideration those forms of internal cancer which are obscure and difficult of diagnosis, the physician too often fails to recognize those which are begging for a diagnosis, and in which a little care and attention to detail would prevent the scarring of professional reputations and perhaps result in the saving of life. It is not genius that is required to obviate the more common blunders, but thorough history taking, painstaking examination, and prompt action where findings justify. In order to minimize the most frequent sources of diagnostic failure, careful consideration should be given to the following points:

(1). In general, malignancy should be excluded, regardless of age, in all patients with stomach and other abdominal symptoms, in all who have lost weight or are anemic.

(2). Every lump and every obscure pain in a woman's breast should make us think of cancer, even though in a majority of cases the suspicion may be without foundation.

(3). In every abdominal condition which might be cancer a rectal examination should be made. The finding of metastases sometimes clears the diagnosis. The same procedure should be adopted with every patient complaining of sciataca or abnormal sensations in the lower back or legs. Not only have neoplasms been often discovered in this way, but other conditions as well, such as a tuberculous abscess pointing in the pelvis. A local examination should be made whenever there is complaint of hemorrhoids, hemorrhage, pain or other rectal symptoms.

(4). Metrorrhagia is a mandatory indication for a careful examination by palpation and inspection, especially if the patient is near or past the menopause.

(5). We should not lose sight of the fact that hematuria is one of the symptoms, frequently the first, of tumor of the kidney, bladder or prostate.

The observations made above are not intended to be complete, but are suggestive and directed against the most common oversights. In addition they are elementary and obvious. However, no apology is offered for presenting them. The important is often obvious and the obvious is often overlooked. It is only by constantly keeping before us their importance that we can avoid the mistake of neglecting the simple means of diagnosis which are ready at hand, as well as that of failure to resort to the more complicated methods of laboratory and examining room.

CLINICAL REPORT OF OPERATION ON UNDESCENDED TESTES.

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A few weeks ago there was presented for the care of the writer a fourteen year old boy with double undescended testes, and after a careful survey of the literature it was found that one of the most responsible and satisfactory descriptions of the development of successful operation was in the December (1918) number of *Surgical Clinics of Chicago* by Dr. Arthur Dean Bevan. Inasmuch as his experience and operative technic is based upon the study of over 400 cases, his teaching was followed in the case presented.

The parents, in presenting the boy for examination, requested a written opinion as to whether he should be operated upon and I therefore advised that:

(a) At this age, 14 years, he has the best chance of getting good results.

(b) There can be no doubt that the individual is better off with organs in a normal position than if they are in the abdominal cavity or in the inguinal canal or in the external rings.

(c) If in an abnormal position such as the inguinal canal, they are more subject to injury and more dangerous to the balance of the body if diseased than if in a normal position.

(d) The present deformity is invariably associated with great risk of hernia or rupture.

(e) There is some evidence to show that undescended testes are more apt to be the site of malignant disease than those in normal position.

(f) There is associated with these cases particularly, as in all malformations, a certain psychic element which must be considered.

Our effort to correct the deformity of course would be in principle as follows:

(a) Endeavor to restore the testes to their normal position.

(b) To correct the tendency to hernia.

(c) Diminish the danger of trauma or injury to the testes.

(d) Relieve the patient from mental worry associated with this deformity.

(e) Lessen the element of risk of malignant degeneration.

The technic of the operation together with the illustrations are best understood by the study of the original report above indicated.

This, the same as any other successful reconstructive plastic surgery, must be free from: (a) sepsis, (b) hemorrhage, (c) tension, (d) with adequate blood supply.

The results in lengthening the cord some five inches, as described by Dr. Bevan, and placing the testes in their new beds, was so satisfactory that I felt it was desirable to call the attention of some other members of the profession who may have needs for this particular information.

REPORT OF MEETING OF THE CLINICAL SOCIETY OF ST. ANTHONY HOSPITAL.

Dr. J. W. Riley, Chairman. Dr. Lelia Andrews, Secretary.

Section 1.—Report of Deaths in Hospital for Previous Month.

Dr. M. Smith: There have been many cases in which the cause of death has been very interesting to me and probably to some of the rest of us. The health department, I think, very wisely, too, are demanding diagnoses as to the cause of death. You have to give the exact cause of death. Now in cases in which the patient has sustained an injury and dies immediately it can be reported as such, but if he lives a few days this diagnosis is no longer acceptable as the exciting cause of death.

The patient I am reporting on tonight is a railroad engineer, Mr. C. V., who while attempting to jump from his engine as engine left the track was so caught under the engine as to suffer severe crushing injuries, the exact extent of which could not be determined. In addition patient received a simple fracture of the right tibia and fibula and was severly scalded. On entering hospital patient was found to be in a semi-conscious condition but complained of pain over epigastrium. Four hours later patient was catheterized and a small amount of urine obtained. Physical examination demonstrated nothing but what has been mentioned above. Cause of death, internal injury, the exact nature of which was not determined as no post-mortem was allowed.

Dr. J. F. Kuhn: The case I am reporting was treated by Dr. Lea Riley and myself. Patient, Miss D. S., age two years Personal and present illness: Patient's birth was affected by employment of high forceps. Since birth, has not progressed normally in a mental way and some impairment of proper use of feet has always been present. On the night of March 2, 1919, patient ate a small portion of banana. Following morning parents noticed nothing unusual concerning baby until noon when baby suddenly lost consciousness. A physician was called at once and the temperature found to be 107. Physical examination made a few minutes later in the hospital revealed nothing other than a failure in reaction of pupils to light and the presence of nystagmus, and marked distention of abdomen of gaseous nature. The laboratory reported albumin in urine along with diacetic, many W. B. C. and hyaline and granular casts. The blood count showed 18500 W. B. C. with 68 Poly. count; R. B. C. normal. Treatment consisted of immersing body in tepid water until temperature was under control and the administration of sodium bicarbonate, whiskey, and bromides as indicated. Intake of proper amount of water was maintained with stomach pump. On night of arrival a lumbar puncture was done and 30 c.c. withdrawn under marked pressure, clear in appearance. Laboratory reported spinal fluid negative. On night of March 6, 1919, patient died without having regained consciousness and with the marked elevation of temperature still persisting. Diagnosis: acute toxic enteritis.

Dr. J. W. Riley: I have a case to report, a Mr. R. V., age 19 years. This case belongs to the medical men but I was asked to do a lumbar puncture. The history in brief, which was obtained through an interperter, consisted of vertigo and tinnitus aurium which began one year ago and which became so severe during the last eight months as to render it necessary for the patient to remain in bed. About three weeks ago patient noticed a dimness of vision which increased in severity rapidly and resulted in total blindness in seven days. About three months ago patient noticed an impairment of use of left arm with development of ataxic gait. Two years ago had an initial lesion on genitals which was followed in a few weeks by a rash over body.

Physical examination showed a total amblyopia and absence of pupillary reaction. Epitrochlears not enlarged. Impaired gait present.

The laboratory reported the routine examination of blood and urine negative. The Wassermann and Hecht-Gradwohl negative, with the blood. Negative results were also reported with the spinal fluid.

On February 28, 1919, I was asked to do the lumbar puncture which we did, turning him on his left side. There was no trouble in getting the fluid and I took an ordinary test tube, half full, which was probably six or seven c.c. I asked the interperter a few questions and he told me of these headaches, vertigo, etc. This was done about 10:00 o'clock and about 1:00 o'clock I learned that the man was not breathing well and in a few minutes he died. The autopsy showed that he had a tumor of the right hemisphere, which was elongated, of firm consistency and which encroached upon the ventricle. This tumor was perhaps as large as a good sized walnut. It cut firmly on section, and appeared brown externally and white internally. The Wassermann was negative and the cell count about normal, I understand. The tumor was turned over to the pathological laboratory and will now be reported by the pathologist.

Dr. L. A. Turley: I took a section and run it through in the usual manner; on placing it under the microscope, found it was a mass of connective tissue, not infiltrated, so the diagnosis was gumma of the brain.

Dr. J. W. Riley: Dr. Lea Riley has a death to report.

Dr. Lea Riely: This man gave the following history: Two weeks ago he had chills, fever, and aching over the entire body, followed with a cough. I was asked by the firm employing him to see him in connection with the physician looking after him. I went to see him and found that he had a broncho-pueumonia at base of left lung as far as the third vertebrae. I saw him a couple of days and his breathing was very rapid, respiration high and tongue dry. After the second day the dullness was succeeded with flatness and the breath sound was further away and not so distinct in lower portion of lungs. I inserted a needle between the sixth and seventh ribs, and had him removed to the hospital here. On arriving here we removed about 500 c.c. of purulent material from pleural cavity in which the laboratory reported pneumococcus and staphylococcus, both by smear and culture. The next morning, after removing this pus, his breathing became much better and his heart beats were stronger. This continued for 24 hours followed with a return of the symptoms. I now put in a spinal puncture needle between the fourth and fifth lumbar vertebrae and drew off about 67 c.c. of fluid. This fluid was clear but had been cloudy on previous punctures. No bacteria found in fluid. Following the puncture the patient revived and regained his senses and was much better for another twelve hours. Next morning his condition was alarming and in about three hours he died.

This brings up a point to me in connection with this case, that I do not feel exactly satisfied with, and one which I have been studying a great deal. This epidemic of influenza has been particularly selective to the cerebro-spinal type. I believe it was a case of potential meningitis, because this fellow was always much better after relieving the pressure. It became more active after lumbar puncture, and there are two theories whether or not the release of pressure allows the germs to enter the spinal fluid or whether the lumbar puncture produces inflammation of the meninges.

Some experiments have been brought out along this line of injecting animals with toxic bacteria. Two animals are used, one a control animal on which the lumbar puncture is not done and one in which this procedure is carried out. The latter animal develops meningitis, showing that this came into the meninges and produced meningitis. The question is whether this puncture hastens the meningitis or not. For instance, two men in Philadelphia who treat cerebro-spinal lues, give an injection of 606 and then do a lumbar puncture and get the effect from this. We did not take a blood culture from this man but I am sure he had pneumonoccic bacteria. Cause of death, pneumonic meningitis.

Section 2.—Presentation of Clinic by Dr. A. A. Will.

Gunshot Wounds of Left Chest, Two Bullets Entering Below Costal Border and Both Perforating Chest Wall Posteriorly in Exit.

Dr. A. A. Will: This particular man entered the marines last October and while stationed in Virginia had this accident, which was a gun shot wound of left chest. Now the question comes up, this man had contracted lues about three years ago which he did not mention in history. Has lost weight since injury but thinks that this was not due to the resulting empyema but to the fact that he ate very little food. Since that time patient has been running a very irregular course of fever and has lost about thirty pounds in weight. I saw him the day he arrived here, his temperarure was 101. The next day I did not see him. The following day his temperature was 105 1-2. Still the drainage was not very profuse from his side. During the examination the right lung was apparently clear. The left side was flat. On the ninth day I sent him to the hospital. The second day here the temperature dropped to 104. At that examination I discovered pneumonia in the right lower lobe. His temperature continued runing high and on the seventh day his temperature was still 105 and on the eighth day 104 1-2. Then he had a crisis and it went to 96 3-5, and from that time on he ran more or less temperature until a week ago when it became normal, and remained so ever since.

This boy is interesting from several points. The first is we have never known whether the bullet pierced the diaphragm or not; when he arrived here the tubes were not in the abscess cavity. Upon removal of the tube, the tube was found absolutely closed. There was a small opening near the tip of the tube. Evidently when his chest became fully filled it would drain through this small opening. This tube had been in there for five weeks; when it was full it would overflow at the end of the tube or result in the patient having a coughing spell.

Four weeks following the injury he had a rib resection done. He was unconscious during this time and was simply put to bed and kept quiet. I have some X-ray pictures that will be of interest, I want to demonstrate the empyema of the lung. This tube was low down. The abscess, as we have mapped it out, was down lower. Each time it would flow in here it came out through the tube. After we removed this tube we put in one of our tubes. This is our air space. These pictures were taken as the pneumonia had more or less cleared up, in right lung. We stethoscoped this man several times and did so this morning and every time he had a pneumothorax. The question arose in our minds whether this space was above or below the diaphragm. This man is better and is on his way to recovery. In fact he has been up and around several days. We treated this the same way as the empyema (drainage tubes with irrigations of Dakin's solution). The pathological reports are coming along very nicely.

The third thing that is interesting is what I have contended all the time, that it is poor surgery not to do a resection of the ribs when you have thick pus, but it has been demonstrated to me that you can remove the pus and get good results without it. (This was accomplished in this case with irrigation with Dakin solution through drainage tube). Now, Dr. Moorman I wish you would demonstrate this X-ray which I am not able to do.

Dr. L. J. Moorman: I was asked to see this boy soon after he came into the hospital and might state that we found at that time in connection with these photos, compression of the lung, which I think the x-ray shows. There is an air space that you can see, a tube going into that space. Evidently with this perforating wound we had considerable collapse of the lung. There is a good deal of mottling of the lung; the boy going through what he did before he came here resulted in conditions that would account for that. I think that the boy is very lucky to have lived at all. Now in the first place the bullets entered below the costal line, and I do not see how they came out without perforating the diaphragm. It seems to me, regardless of the pathological report and the outcome of this

case, that the bullets must have perforated the diaphragm in order to have traversed from the abdomen to the region of the scapula, and we are quite sure that these bullets perforated the lung and left pneumothorax. This illustrates very clearly the value of laboratory procedure and the danger of incompetent interpretation. We guessed that this air space, apparently below the diaphragm, was gas in the stomach. There was little movement of the diaphgram. We had him under the fluoroscope and it was suggested that we give him some bismuth to see if the pocket of gas really represented the stomach. To our surprise the bismuth passed on down and located the stomach far below the normal position.

It seems to me that this boy would have gotten along much better if the wounds had been properly cleaned and sealed at the time. I believe it is the practice of the surgeons at the Front to take that chance on these cases.

Dr. LeRoy Long: Anything further Dr. Will? Gentlemen, you have heard this interesting report. It is now open for discussion.

Dr. Riley: There are certain things about this case that appear to me to be interesting. In the first place you have a pneumothorax here, the diaphragm does not show quite so plain on the affected side and I think there is pus in here and it is a sub-diaphragmatic abscess.

Dr. M. Smith: Is the pus thick?

Dr. Will: It was at first but the Dakin solution cleared it up.

Dr. Smith: I have watched a lot of these cases that the war men had and I like to watch the improvement. Recently I have seen some brilliant and succesful work with nine radical operations. I think that a large number of those cases where you get thick pus, if you use Dakin solution it will completely melt it down. Now there must be something in it and we will all be using it more in the future than we in the past.

Dr. Lea Riely: Dr. Will spoke of the pus being negative. I wonder if a smear would show any of the germs. It seems after the Dakin solution the germs are dead, but the smear will sometimes show them. They are in the smear, Dr. Will, are they not?

Dr. Will: Yes, they are still in the smear.

Query: There was a differential count of 70 when he first came in, was there not?

Dr. Will: When he first came in the white count was 10,400. The differential 78 and 22. His temperature now runs about 99 in the afternoons.

Dr. Long: I am not sure whether it is understood from his remarks that it is the accepted way to heal wounds of the chest as long as we have any debris in the chest. Wounds may be closed when we have a clean wound, not only a clean wound but a wound full of vitality. It has been carried on to this point, that practically any wound, especially large wounds, but on any wounds where it is possible to vitalize the tissue then it may be sewed up right away, and if I understand it, that was the practice. But understand, that does not mean to sew up or close up hermetically any wound if devitalized tissue is present or to sew it up on the assumption that there will be no trouble. The physicians point out that it may be about thirty hours before there will be any trouble. If the wound has been cleaned and we have only sound tissue, then let it alone. If it shows staphylococcus, then let it alone but watch it. If it shows streptococcus, then you are in trouble. I do not believe that it was ever intended, especially in wounds of the lungs, to seal them up hermetically as long as we have devitalized tissues. You should put on clean gauze after it has been cleansed, but do not stop up hermetically, because it is understood that there will be more or less ' inage. A few times we may have pus develop from wounds of the chest. I with those gentlemen that this bullet went through the diaphragm.

Dr. Moorman: I heard Devaul, the Italian, and two English surgeons on surgery of the chest. They state that they would take a chance with trouble within with devitalized tissue removed. They always prepared for a second opening if necessary but would close these wounds in this way. If they had a serious wound, they would deliver the lung from the pleural cavity and free it from foreign matter and put it back and still close it completely. The Italian used artificial pneumothorax in case of hemorrhage. This is where I got my authority for this statement.

Dr. Long: I remember that statement made by these men. I was impressed that Devaul operated without removing the lung but the lung was just brought out, the chest cleaned up and lung replaced and sewed up, but that was after devitalized tissue had been removed. I do not think that just running gauze through it would be right. Just exactly opposite is Dr. Barton Ellis' procedure. I think that is the outstanding thing we have learned in connection with the war, that when devitalized tissue is removed we can sew it up or do anything we want to do with it.

Dr. W. K. West: I had a course in Bellevue a year and a half ago. There instead of resecting a rib, a lateral intercostal incision was made and tractors applied, separating the ribs so that the lung was delivered.

Dr. Will (closing): It makes you appreciate how much you get from these clinics. I think Dr. Moorman will tell you that we have fooled with this case for several weeks and we are not sure of the diagnosis. We were sure but are not now. We thought we had a sub-diaphragmatic abscess. It is worth a great deal to us for you men to declare it is a sub-diaphragmatic abscess. This boy, instead of having a torn wound or any wound you would get from a schrapnel, had a clean wound and I do not suppose very much lacerated tissue. The Sister (in charge of dressings) has said many times that she believed there was a drainage from that cavity, as one day she would get practically no pus and other days large amounts.

Section 3.—Death Reports for March, 1919.

Dr. George La Mott:—Empyema. Baby D., age two and one-half years. Influenza followed by pneumonia six months ago. She developed marked dullness on the right side, which was diagnosed empyema. There was some dyspnea and orthopnea at times but patient had never been subject to spasms or convulsions prior to this attack. The condition was so acute that I did not operate her the day she came into the hospital, but the increasing sepsis made it impossible to delay it over one day.

On the second day after the child came in, I used 30 cc. of 0.2 per cent solution of cocaine and introduced a needle into the ninth interspace posteriorly. I withdrew about one-half ounce of tenacious ropy pus, then injected one-half ounce Dakin solution and again withdrew a small amount of pus. At this time patient suddenly became rigid and the needle was withdrawn. After a brief spasm the child succumbed. Heat and stimulation were of no avail. The pulse remained good until immediately before death. Slight cyanosis of the lips, but finger nails remained pink. I was unable to get an autoposy.

Now gentlemen, what was the cause of death? I feel like it was due to embolism, yet the element of pleural shock must be considered. I would be very glad to hear some discussion on the case.

Discussion.

Dr. D. D. McHenry. This is a very interesting case to me since death might have been from any one of several causes. A child of this age and general condition would be very susceptible to the cocaine anesthetic, but the entire amount injected was no more than one-sixth grain.

Dr. L. J. Moorman. I have read a great deal about pleural shock, but have never seen a case. I am frank to say I don't exactly understand the condition but it seems to me that if the anesthetic was carried through the parietal pleura it might lessen the danger of pleural shock.

Dr. Le Roy Long. The older writers classify the cause of death under three heads: 1. Failure of the heart itself. 2. Changes in the lungs. 3. Death through the central nervous system.

I think we can eliminate the first cause because there was no previous cardiac disturbance and the pulse remained good up to the time of death.

The second cause may be eliminated since there was only slight cyanosis, the finger nails remained pink.

I think, then, we can say death was through the nervous system. The most probable cause being cerebral embolism.

Dr. M. Smith:—Osteo-sarcoma. Mr. E. A. J., age 60, traveling man. The trouble began as small nodule on left scapula. This was removed several years ago, but recurred. He was subjected to repeated operations.

About eight months ago he again came into the hospital. At this time he had a sloughing ulcer on his back extending from the scapular region down to the lumbar region extending almost the entire length of his back, the toxins of which were enough to produce death. The large sloughing ulcer was the result of a "cancer paste" which was applied at one of the so-called "cancer hospitals." The damage done by the caustic was far more grave than the malignancy. He was given a general anesthetic and I removed all the necrotic tissue, even to a portion of the left scapula, which had been necrosed by the paste. Cautery was applied to the bleeding vessels and later skin grafts were done.

The patient came back to the hospital a few weeks ago, very weak and emaciated. There was evidence of general metastasis and the pain was intense. He succumbed from toxemia.

Dr. L. J. Moorman:—Broncho pneumonia complicating influenza. Mrs. M. W., age 45, the mother of nine living children. The youngest child was two weeks old when the mother died and seven of the children were brought to the hospital with the mother on account of influenza. The patient entered the hospital forty-eight hours after the onset of the illness in a state of extreme prostration, dyspneic and cyanotic with signs of meningeal irritation. The physical examination revealed evidence of extensive broncho-pneumonia involving both lungs. The white count was 4,500. Patient died twelve hours after entering hospital. Autopsy was not secured.

Dr. L. J. Moorman:—Empyema following influenza. John M. C. N., age 45. Patient gave history of several attacks of malaria, otherwise history negative. Contracted influenza November, 1918, from which he never recovered. He entered the hospital March 15 in a delirious state, apparently suffering from some overwhelming toxemia.

Diagnosis. (1). Extensive empyema of the right chest. The liver was displaced downward and the mediastinal structures pushed far to the left. (2). Mitral insufficiency. (3). Pulmonary tuberculosis (dullness and moisture in upper lobe of the left lung). The latter condition probably explains the so-called attacks of malaria which preceded the influenza. Patient died in less than twenty-four hours after entering hospital.

The history and clinical findings with autopsy report, which appears below, cause one to wonder how the case could have gone on so long without recognition and treatment.

Autopsy Report. Right lung completely collapsed from apex to base. Num-

erous white areas, one to ten mm. in diameter in the lower lobe. Pleura covered with corrugated thickenings. One gallon and a half of greenish fluid escaped from the pleural cavity. The left lung adherent to the chest wall in places, contained many white areas over the surface. Caseous tuberculosis in both lungs. Complete atelectasis in right lung. Pyothorax in right side. Mild acute nephritis beginning. Arterio-sclerosis of the aortic ring and mitral valve.

Case Report—Aortic Aneurism.

Dr. J. T. Martin, Oklahoma City. Mr. A. G. B., age 58, contractor. History of penile sore, twenty years ago.

I reported this case before the society six years ago. At that time he complained of rheumatism, asthma and a pain in the chest with a brassy cough. The diagnosis of aneurism was easy. He had a marked polyuria, passing from fourteen to twenty quarts of light colored urine per day, and an excessive thirst. No edema. Chest negative, one knee jerk absent. Romberg sign negative. Members of the society estimated his life at six to eight months. He was put on mercury and potassium iodide treatment and advised to lead a quiet life on account of his aneurism.

I present the case again tonight with a smaller aneurism than he had six years ago. This shows that we can never know what may happen. The pulsating tumor in his chest is smaller and the pains are less severe. His tabetic signs and symptoms, however, are more prominent. He now has the Argyll-Robinson pupil and shows some atoxic gait. He has some arterio-sclerosis but no heart lesion. There is no appreciable difference in the two radial pulsations.

I have presented this case because it showed the unusual termination of aneurism in a man of this age.

OSTEITIS FIBROSA

J. L. DeCourcy, Cincinnati (*Journal A. M. A.*, May 31, 1919), reports a case of osteitis fibrosa in the upper portion of the humerus in a boy of twelve. A cyst, about 2 1-2 inches in length, filled with bloody matter, was dissected out with some healthy bone, and a strip from the tibia was transplanted into its place. A few isolated giant cells were demonstrated in sections from the cyst, and, with its gross appearance, justified a diagnosis of osteitis fibrosa. He holds that such tumors should be considered malignant, and curettage, therefore, is contraindicated. A bone graft is a proper treatment, provided one can exclude infection after full resection of the cyst or tumor.

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Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

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EDITORIAL

CANCER PREVENTION.

Observers long ago noted that those diseases most difficult of cure or classed as incurable were invariably accompanied in materia medica, surgical manoeuvers and therapeutic literature by suggestions for control in ratio to the difficulty of cure or treatment.

Cancer stands unchallenged as the leader in this class. No system or department of medicine offers the sufferer, even average hope of permanent cure or arrest. Brushing aside the claims of the criminal exploiter of the cancer sufferer; the recurrent absurd claims of the charlatan in our own ranks, often with some pretensions of ability and plausability; and the occasional very highly-rated physician, who becomes paranoically wedded to his pet theory; the medical profession has had brought home to it forcibly, the following tenatively accepted ideas of etiology and management:

The cause is certainly not known or proved, but from the mass of experience the predominant possible factors seem to be.

Departure from cell type, due to nearly any trivial cause, but especially traceable to some form of constant irritation. Among the commoner being, neglected tears of the cervix. "Harmless" lumps in the female breast, "dyspepsia", indigestion, the various gastric disturbances, the very common growth about the face; and, other causes of lesser occurrence.

Whether these are to be accepted as causes is not so much our concern, but the safe and easy eradiction of most of them, if recognized in time, is universally admitted by everyone. It follows that the responsibility of discovery and warning lies with, not the expert surgeon, but with the family physician, the man brought daily into contact with potential cancer. This conclusion has become

absolute logic to observers, who accept with reservations, the ideas of cause and prevention.

If there is now any practical prevention it lies in acceptance of the rules suggested, and with the man who sees the case first and recognizes its dangers. It is his duty to advise his patient of the possibilities and the relative ease of correction. Any other course is unwarranted when the ease of early correction is compared with the tragic possibilities of non-recognition, pitiably useless and dangerous makeshifts so often noted when the case is beyond hope of relief. In many fatalities due to cancer the severe indictment of almost unbelieveable neglect on the part of a trusted family physician may be justly and properly lodged.

In the light of our present lack of information and divergence as to etiology, hair-splitting argument is well enough, indeed most useful in keeping the subject alive, but the only course the physician may follow with the maximum of benefit, is that of sane watchfulness, emphatic statement of the dangers of neglect and prompt removal of all abnormalities reasonably assignable as factors in production of cancer.

SYNTHETIC, VERSUS NATURAL SODIUM SALICYLATES.

Pernicious, financed and systematic activity of the ubiquitous "Detail" man, invariably biased and pregnant with inaccurate conclusions based on unauthenticated alleged research work; as a rule backed up with statements from some physicians equally biased and wholly unfitted to present opinions on technical, chemical, clinical or laboratory investigations, render it imperative that the attention of the hard worked physician, with no time to devote to investigation, be called again to the subject. The fact that Oklahoma has recently been most thoroughly "worked" by detail men, glibly misleading the busy doctor as to the merits of "Natural", over Synthetic Sodium Salicylates, warrants a statement of the findings in the matter.

In the first place the indisputable findings are not new to the informed, but the average physician has neither time or inclination to read the mass of matter, good and bad, coming to his desk. He is especially prone to ignore the weekly reports of his personal, uninspired—except to ascertain the truth,—scientific corps of investigators, the Council on Pharmacy and Chemistry of the American Medical Association. He has never reflected that, almost without variation, whatever the Council has assailed as unworthy in the years of its work, has come to oblivion and discredit. Among the investigations the Salicylate question was made and settled long ago. The conclusions are:

There is no difference between the toxicity of natural and synthetic sodium salicylate.

Clinical reports of differences are unsatisfactory and inconclusive as based on most inaccurate and questionable trial.

No significant chemical impurities are discoverable in the synthetic product.

Hilpert in 1913 investigated for the Council eleven specimens ranging from the cheapest commercial bulk sodium salicylate at 0.45 cents per pound to the highest-priced "Sodium Salicylate from True Natural Oil of Wintergreen" at $14.00 per pound. His conclusions were that there was no difference as to properties and composition.

A. W. Hewlitt the same year (*Journal A. M. A.*, August 2, 1913, page 319) published a compilation of the most thorough investigations of a corps of investigators. These were supplied with every conceivable specimen of salicylates, but without the slightest information of identity as to whether they were synthetic or natural. The clinical investigation was conclusive. Not one of them was able to distinguish between the two classes of products.

These findings have been substantiated so often that citations are useless.

We call attention to the matter now in order that physicians may be able to reject the active "Educator" calling on him for the purpose of disseminating misinformation on a matter which he often pays little or no attention to.

CURRENT MEDICAL LITERATURE

Conducted by

DR. CHAS. W. HEITZMAN, Barnes Building, Muskogee

Contributions and observations of Oklahoma physicians collected by them in the course of study of American and foreign medical literature, deemed to be of sufficient interest and value to the profession, are especially invited to this department. Such contributions should bear the name of the sender, which will be appended to the abstract or omitted, as desired.

LE PALUDISME A BORD DE "LA MARSEILLAISE" SUR LA COTE OCCIDENTALE DE L'AFRIQU

(Malaria on board the *La Marseillaise* on the west coast of Africa).

By Dr. G. Goett, medecin de 1re classe de la marne. *Arch de Med. et Pharmacie Navales*, No. 2, August, 1918, p. 118.

The very interesting, instructive and, in many respects, dramatic story of the author of the ravages made by malaria on board the *Marseillaise* is so typical of the havoc this disease can create on board a cruiser that the reviewer considers himself justified in presenting it to the readers of *Millitary Surgeon* in the author's own words as nearly as this can be done:

"*La Marseillaise*, coming from Brazil, arrived at Dakar on September 23, 1917. The sanitary conditions on board were excellent; the ship was ordered to go into drydock for some repairs to her bottom, and then to continue on her voyage to Agadir.

"It was the season during which the colony was the most insalubrious, and we learned on our arrival that there was a great deal of malaria on shore and that the first cases of blackwater fever had already made their appearance. Everybody on board was immediately put on preventive doses of quinine.

"Between September 23 to 28 we were at anchor in the roadstead, and saw but few mosquitoes. But, soon after having gotten into dock, September 28, the ship was invaded by anophelines. In one single night the ship was filled with them, and this for two cogent reasons: in the first place, the dock was extremely dirty, and even during normal times a veritable nest for mosquitoes; and, in the second place, the wind blew from the direction of a swampy plain, known to be full of fever and mosquitoes. Sufficient protection by mosquito netting or the closing of all the open places by wire screens not being available, we resorted to the use of an ointment consisting of equal parts of camphor and salol and with which we anointed the bodies of the men, with the view of keeping off the mosquitoes and of relieving the pain from their bites. On October 4 (six days since getting into dock) we left Dakar, having on board but four cases of malaria, but a steady increase in the number of cases could be noted from day to day, and on the 7th, when we arrived at Port-Etienne, we had 125 cases in beds; we departed on the 8th with 145 sick. On the 11th we had a maximum of 289 cases.

"The recurrent seizures were all alike, sudden, with violent headaches, intense lumbar pain and stiffness, face red and swollen, eyes brilliant, temperature rising without chilly rigors, no bilious vomiting in the beginning.

"Many of the recurring seizures became bilious, with nausea and vomiting, whenever the temperature began to rise. The attacks continued for six to eight days, some lasting for twelve days. There were cases of syncope occurring in men who were on their way from hammock to closet; some were delirious for several hours, the delirium disappearing with the fever, leaving but a light mental confusion. On the 18th day of October, the day of our arrival at Agadir, we still had 144 sick in bed, but the daily admissions decreased, and with the decrease in atmospheric temperature the number of mosquitoes declined.

"On October 27, the day of our return to Dakar, we had but few new cases a day, while the relapses became numerous and occurred without showing any regularity as to time; all, without exception, were tertians.

"The attacks occurred always during the morning, the patients reporting at the sick-bay after the 11 o'clock meal with voilent chilly rigors, the temperature rising. The fever lasted from six to eight hours and terminated in an intense perspiration. Quinine had a more marked action in these tertian forms than in the preceding remittent cases; they were made to disappear after the third day.

"Out of a complement of 598 men, 440 were attacked; 307 suffered a second tertian invasion, furnishing 532 relapses. Out of these 307 tertian cases 154 had one relapse, 101 had two, 32 had three, 20 had four.

"*Observed complications.*—On our arrival at Agadir, one of the mechanics had an attack of Raynaud's disease (local asphyxia of the extremities of the blue form). This was followed by gangrene of the toes and even of the feet, where blackish sloughs began to form: he was sent to the hospital at Casablanca. One of the sharpshooters, after an attack of remittent fever, presented a

keratitis, followed by an ulcer of the cornea. Edemata were observed frequently. One case even showed general anasarca, heart and kidneys being absolutely normal. Aside from this case, the edemata were partial, attacking the malleoli and the scrotum, painless, white, causing but slight formications during their being absorbed. Amenesias and deliria, followed by mental confusion and disappearing with defervescence, were observed.

"One breveted sharpshooter, for the period of a week, was the victim of a dreamy delirium, seeking to find one of his relatives in every part of the ship and to wash his garments. A second master gunner was temporarily delirious, jabbering unintelligible phrases, afterwards remembering nothing that had occurred during the period. Another master gunner, with neurasthenic tendencies, panphobic and suspicious, suffering from insomnia, lived a life of sadness and solitude, speaking to no one, answering hardly any questions, except complaining of severe 'migraines.' Several cases of an urticaria-like eruption, during the febrile period, were observed.

"A steward presented a beautiful case of intermittent torticollis that lasted several days. Convalescents complained of diverse forms of neuralgia; intercostal, lumbar, scapular, crural, etc., all of which disappeared on a few grams of quinine. Tremors, 'a grandes oscillations,' increasing during intentional movements and persisting for a long time, were observed; one of the quartermasters had them even during his sleep for more than a month.

"*Pernicious attacks.*—Three of these were very striking. On our arrival at Agadir, 'second-maitre' L., for three days down with bilious remittent and showing nothing but slight agitation, so that he could scarcely be kept in his hammock, his temperature going down on the fourth day, when, suddenly, during the evening, he had an algid attack; the pulse became small and intermittent, extremities grew cold; dark circles appeared around the eyes. In a few hours, in spite of injections of ether-quinine, his head, shoulders and arms were covered with cold perspiration, while other parts of the body remained hot. Temperature 37 degrees. He did not feel cold. His temperature went down to an alarming degree, his features became drawn more and more, his eyes retreated and his lips became cyanosed, while he remained perfectly conscious and answered all the questions. He died at the very moment when the temperature went up to 40 degrees C.

"On our arrival at Fort-de-France, quartermaster D., after coaling all day the previous day, was taken suddenly, at morning quarters, with a pernicious epileptic seizure. After a serious of slight crises, frequent to overlapping, these crises terminated in a furious delirium; he remained delirious all day at the hospital into which he was transferred, developing new crises, nessitating the straitjacket; he saw himself pursued by his comrades wanting to strike or kill him; gradually recovering, regaining consciousness without the slightest recollection of what had occurred. Prodromata, in the form of 'migraines' and tremors, had been noted by his comrades, he having become vindictive and irritable.

"Another case of the delirious form, presenting similar symptoms as the preceding, occurred in the person of 'matelot timonnier' Le G.

"Finally, choleric and dysenteric forms occurred, the stools being frequent and sanguinolent, or simply serous and copious.

"There were on board the *Marseillaise* a certain number of parrots, parochites, a striped monkey and a baboon. Many of these died on our trips between Dakar, Agadir and Fort-de-France, without the cause of death having been determined; but the striped monkey and the baboon, having presented chills, followed by somnolence and bilious vomiting, may be assumed to have died from malaria."

Such is the pathetic story of malaria on the *Marseillaise*, which will surely interest those of all our naval colleagues who, like the reviewer, could tell similar, if not identical, tales from experience.

H. G. BEYER.

(From *Military Surgeon*, March, 1919).

PERSONAL AND GENERAL NEWS

Dr. W. B. Pigg, Okmulgee, visited St. Louis clinics in June.

Dr. J. L. Adams, Pryor, attended the Rochester clinics in June.

Dr. H. T. Ballantine, Muskogee, has returned from army service overseas.

Dr. T. H. Briggs, Atoka, has been appointed health officer for Atoka county.

Dr. N. H. Lindsay, Pauls Valley, is visiting the Rochester and Chicago clinics.

Dr. J. W. Graves, McAlester, has been appointed health officer for Pittsburg County.

Dr. C. M. Bloss, Okemah, has been reappointed superintendent of health for Okfuskee county.

Dr. E. L. Bagby, Vinita, has been appointed superintendent of the State Hospital at Supply.

Tulsa County Medical Society adjourned for the summer after the meeting of June 23rd.

Drs. L. J. Moorman, Oklahoma City; Chas. R. Hume, Anadarko, and C. W. Heitzman, Muskogee, represented the State Medical Association at the Atlantic City meeting.

Dr. G. R. Booth, LeFlore, has returned from New Orleans where he has been doing special work.

Dr. W. J. Wallace, Oklahoma City, visited New York and the Atlantic City meeting in June and July.

Dr. J. N. Shaunty, Eufaula, has been discharged from the army and returned to his home, after overseas service.

Dr. C. A. Dillon, Tulsa, is attending Dr. Richard Cabot's course at Harvard University during the month of July.

Dr. J. A. Deen, Ada, has been appointed health officer for Pontotoc county. He succeeds Dr. Catherine Threlkeld, the only woman health officer in the state.

Dr. F. W. Ewing, Muskogee, has been appointed county superintendent of public health. Dr. Ewing held the office during the absence of Dr. Claude Thompson who was in military service from November, 1917, to January, 1919.

Dr. G. A. Wall, Tulsa, had as his guests Drs. S. S. Glasscock, Kansas City, Kansas, and A. R. Lewis, State Commissioner of Health, Oklahoma City, when they attended the meeting of the Tulsa County Medical Society June 23. Dr. Wall tendered a dinner to several guests on the occasion.

Ottawa County Physicians held a joint meeting with physicians from Cherokee County, Kansas, and Jasper County, Missouri, June 19. It goes without saying the meeting was held on the "Missouri" side and in characteristic Missouri style and vein. The organization rightly denominated the "Society of Good Fellowship", was made permanent and will be continued. Nearly one hundred physicians attended, enjoying the lunch and other refreshments. Dr. F. L. Wormington, Miami, was elected President and Dr. Loudermilk, Galena, Kansas, Secretary.

Lieutenant Commander R. B. H. Gradwohl, Medical Corps, U. S. N. R. F., has returned from the Service and resumed his work as director of the Gradwohl Biological Laboratories and Pasteur Institute of St Loius. Owing to the efficient organization of the Gradwohl Laboratories, they were not closed during the war period, and now that Dr. Gradwohl has returned, the profession is assured that renewed efforts will be made to assist all those who are in need of laboratory aid.

Dr. C. E. Putnam, Lieutenant, M. R. C., Eakley, sends his regards to the *Journal* from Berlin, Germany. Dr. Putnam is one of the few fortunate enough to reach the much desired goal and assures us he likes Oklahoma better and will be with us soon.

Oklahoma Baptist Hospital, Muskogee, announce the opening of their new institution. The board of trustees inviting the public to inspect the new building July 2 and 3.

Dr. J. A. Mullens, Marlow, is visiting the Denver Clinics. He is accompanied by his wife and daughter who will take a cottage in Colorado Springs for the summer.

Dr. H. T. Ballantine, Muskogee, has been reappointed health officer for the City of Muskogee, Dr. Sessler Hoss, who held the place in his absence, resigning.

Dr. F. B. Fite, Muskogee, is in New York to meet his son, Captain William P. Fite, M. C., U. S. A., who has been over seas with the 36th division.

Dr. J. C. Mahr, in charge of the Federal and State Venereal Work, is directing the seizure of many patent medicines heretofore sold and lauded as cures.

Tulsa physicians are protesting against discrimination toward their profession by office building owners who, they claim, refuse to rent offices to them.

Dr. T. A. Hartgraves, Lieutenant M. C., U. S. A., Soper, has received his discharge from the army. He did laboratory work in France.

Captain J. Hutchins White, M. C. U. S. A., Muskogee, who has been overseas for more than a year, is on his way home.

Dr. L. A. Hahn, Guthrie, who served as a captain in the army, has been discharged and returned to his home.

Dr. C. J. Brunson, Adamson, who has been in the army for some time, has located in McAlester.

MISCELLANEOUS

DOCTOR JEAN-PAUL GAY.

This is sacred Memorial day,
When we visit the city of the dead.
We pay respect to their memory,
Thinking of things we might have said.

The little things we did not do,
Words of cheer we left unsaid,
All come home with sad regret
When we visit graves of sacred dead.

We visit the grave of lamented Paul,
Co-worker and friend of a few short years,
And read the name —Jean-Paul Gay—
With mingled sorrow, pride and tears.

Did you know our friend Jean-Paul?
Did you know Doctor Gay?
If not, you can never understand
Our loss when he was taken away.

Did you know Gay? the sacrifice he made
When his country called him to go?
See him smile in the face of adversity,
When others were scampering so.

The adverse side of Jean-Paul's life,
Which critics would all parade,
Was dotted with deeds of charity work,
For which no credits were made.

Too modest to mention his deeds of love,
His aid to thousands that came,
For his services whether gratis or not,
Given with a smile just the same.

A born physician, a heart of love,
The soul of honor and of right.
If you have not known him thus to be,
You have not known him as you might.

Peace to Thy ashes, friend o'mine,
And, until the judgment day,
Sleep ye, peacefully, comrade;
Rest ye, my friend—Jean-Paul Gay.

—J. W. Echols, M. D.

COUNCIL ON PHARMACY AND CHEMISTRY
AMERICAN MEDICAL ASSOCIATION

This report is limited according to the ideas and opinions as to its usefulness and practicability to Oklahoma physicians. A complete report is obtainable upon request from the Council, 535 North Dearborn St., Chicago.

ARTICLES ACCEPTED.

Abbott Laboratories: Liquor Hypophysis, U. S. P., Abbott. Procaine Hypodermic Tablets, 3-4 grain. Procaine-Adrenalin Hypodermic Tablets—Abbott.

E. R. Squibb and Sons: Protargentum—Squibb.

NEW AND NONOFFICIAL REMEDIES.

Barbital-Abbott Tablets, 5 grains: Each tablet contains 5 grains of barbital-Abbott (see New and Nonofficial Remedies, 1919, p. 82). The Abbott Laboratories, Chicago.

Procaine Hypodermic Tablets, 3-4 grain: Each tablet contains 3-4 grain of procaine-Abbott (see New and Nonofficial Remedies, 1919, p. 30). The Abbott Laboratories, Chicago.

Procaine-Adrenalin Hypodermic Tablets: Each tablet contains procaine-Abbott 1-3 grain and adrenalin 1-2500 grain (see New and Nonofficial Remedies, 1919, p. 30). The Abbott Laboratories, Chicago (*Journal A. M. A.*, May 17, 1919, p. 1463).

Protargentum-Squibb: A compound of gelatin and silver containing approximately 8 per cent. of silver in organic combination. It has the actions and uses of silver preparations of the protargol type (see New and Nonofficial Remedies, 1919, p. 307). Protargentum-Squibb is used in 0.25 to 5 per cent. aqueous solutions, prepared freshly as required. E. R. Squibb and Sons, New York (*Journal A. M. A.*, May 24, 1919, p. 1543).

PROPAGANDA FOR REFORM.

Phosphorus Metabolism: The more recent investigations on digestion and absorption all point to the probability that phosphorus from the digestive tract reaches the general circulation only in the form of inorganic phosphates and that all organic phosphorus compounds are synthesized in the body cells. This is in support of the conclusion of the Council on Pharmacy and Chemistry in forming an estimate of the therapeutic potency ascribed to preparations of organically bound phosphorus, such as lecithin, glycerophosphates, phytin, nucleic acid and phosphoproteins. All the newer researches give indication that the body is dependent on a ready made supply of phosphatid (phosphorized fat) in the diet to maintain normal nutrition (*Journal A. M. A.*, May 3, 1919, p. 1294).

Iodex: Iodex is a black ointment marketed by Menley and James with the claim that it is a preparation of free or elementary iodin minus the objectionable features that go with free iodin. As a result of an investigation of Iodex made in the A. M. A. Chemical Laboratory, the Council on Pharmacy and Chemistry reported in 1915: 1. The composition is incorrectly stated; the actual iodin content is only about half of that claimed. 2. The action of Iodex is **not** essentially that of free iodin, although that is the impression made by the advertising. 3. The assertion that iodin may be found in the urine shortly after Iodex has been rubbed on the skin has been experimentally disproved. As the manufacturers of Iodex still persist in their claim that the product contains free iodin, the A. M. A. Chemical Laboratory has again examined Iodex. It reports that Iodex gives no test for free iodin, or, at most, but mere traces (*Journal A. M. A.*, May 3, 1919, p. 1315).

Two Misbranded Nostrums: Bull's Herbs and Iron Compound was a weak alcoholic solution containing iron, phosphates, sugar and vegetable derivatives, among which were quinin, red pepper, gentian and podophyllum. It was falsely and fraudulently represented as a remedy for weak nerves, ailments peculiar to women, scrofula, rickets, liver, kidney and bladder diseases, etc. Efferescente Granulare consisted of over 13 per cent. sodium bicarbonate, 61 per cent. of sugar, 3 per cent. of borax, and 17 per cent. potassium bitartrate. Though invoiced as "Eff. Magnesia" it contained no magnesia. Both were declared misbranded (*Journal A. M. A.*, May 3, 1919, p. 1316).

Collosol Manganese: Stephens, Yorke, Blacklock, Macfie, Cooper and Carter reporting in the *Annals of Tropical Medicine and Parasitology* the results of their investigation for the English government of Collosol Manganese, conclude that Collosol Manganese in the doses used is of no value in the treatment of simple tertian malaria (*Journal A. M. A.*, May 3, 1919, p. 1318).

Helpful Hints for Busy Doctors: A comparatively recent issue of the *International Journal of Surgery* has an editorial on "The Questionable Etiology of the Present Epidemic," signed "G. H. Sherman, M. D." It was to the effect that one can best immunize against influenza by using "a combined vaccine containing the influenza bacillus, pneumococci, streptococci, the *Micrococcus catarrhalis* and staphylococci." In the advertising pages of the same issue was an advertisement of "Influenza Vaccine No. 38," which "will abort Colds, Grippe, Influenza and Pneumonia," and which was made by "G. H. Sherman, M. D." The vaccine contained the various bacilli and cocci mentioned in the G. H. Sherman editorial. One wonders if in the succeeding issues of the *International Journal of Surgery* one may look for editorials by the proprietors of Bellans, Phenalgin and other products advertised in the publication (*Journal A. M. A.*, May 10, 1919, p. 1372).

Administration of Arsphenamine: The U. S. Public Health Service has issued a circular concerning the dilution and the rate of administration of arsphenamine solutions. A study as to the cause of the disagreeable results following the use of the various preparations of arsphenamine has indicated that most disagreeable results are not inherent in the preparations but are produced through faulty steps in the administration of the remedy, chiefly from the use of a too concentrated solution and by too rapid administration (*Journal A. M. A.*, May 10, 1919, p. 1372).

Tyree's Antiseptic Powder: An advertising leaflet for Tyree's Antiseptic Powder recently received by a physician is devoted largely to a report of a bacteriologic examination of the Tyree's preparation. The physicians who receive this advertising material might easily overlook the fact that the reported bacteriologic tests were made in 1889 and that the investigation of the Council on Pharmacy and Chemistry in 1906 brought out that the examination applied to a product differing radically in composition from that of the preparation now marketed. The Council found that although the Tyree preparation was advertised as a mixture of borax and alum, it was essentially a mixture of zinc sulphate and boric acid. Here then we have a manufacturer publishing in 1919, in behalf of a certain product, tests that were made in 1889 with a product of different composition although of the same name (*Journal A. M. A.*, May 17, 1919, p. 1482).

Peptenzyme: Peptenzyme was reported on by the Council on Pharmacy and Chemistry along with a number of other products of Reed and Carnrick in 1907. The report "Reed and Carnrick's Methods" announced that none of the products examined were eligible for New and Nonofficial Remedies. The following is an abstract of the report on Peptenzyme: Peptenzyme elixir and powder are said to contain "the enzymes and ferments of all the glands which bear any relation to digestion;" therefore, the peptic glands, pancreas, salivary glands, spleen and intestinal glands. The preparations are said to be "not chemical extracts, but pure physiologic products." Apparently Peptenzyme powder consists of the glands, dried and powdered, while elixir is an extract. It is stated that these preparations digest proteids, starch and fat, and in addition stimulate and nourish the digestive glands, and that the ferments in these preparations do not interfere with or digest one another. Examination by the Council showed that these preparations were practically devoid of any power to digest proteids or fat when tested by the U. S. P. method. The claim that the product contained ferments which would not show this activity in the test tube, but become active in the alimentary canal, is contrary to known facts and could not be substantiated by the manufacturer. The claims made for Peptenzyme powder and elixir were held to be unwarranted (*Journal A. M. A.*, May 17, 1919, p. 1484).

Kline's Nerve Remedy: This epilepsy nostrum was analyzed by the A. M. A. Chemical Laboratory and found to be a bromid preparation and practically identical with Waterman's tonic restorative.

Nuxated Iron: The analysis in the A. M. A. Chemical Laboratory indicated that Nuxated Iron Tablets contained only 1-25 grain of iron, while the amount of nux vomica was practically negligible. Nuxated Iron has been advertised by an extensive campaign of misrepresentation and exaggeration (*Journal A. M. A.*, May 24, 1919, p. 1560).

The Williams Treatment: According to the Dr. D. A. Williams Company, which sells it on

the mail order plan, the Williams Treatment "conquers kidney and bladder diseases, rheumatism and all other ailments when due to excessive uric acid." The Williams Treatment was analyzed in the A. M. A. Chemical Laboratory and from the results of the examination it was concluded that it is essentially a mixture containing in 100 cc. 48 gm. potassium acetate in solution and in about 7 gm. potassium bicarbonate, the latter being largely undissolved. The mixture is colored with caramel and flavored with oil of wintergreen or methyl salicylate (*Journal A. M. A.*, May 31, 1919, p. 1632).

Investigation Based on False Premises. One sometimes reads in supposedly "Original Articles" in medical journals statements that seem puzzlingly familiar. If one is sufficiently inquisitive and possessed of a germ of Sherlock Holmesism, the familiar statement may be traced to the "literature" for some proprietary medicine with which the author's article deals. The unwisdom of authors accepting the unconfirmed statements of the promoters of proprietary remedies is well illustrated in a recent report of the Council on Pharmacy and Chemistry on "Collosol Cocaine", a preparation claimed to contain 1 per cent. of cocain in colloidal and relatively nontoxic form. The report brings out that men of good standing had reported "Collosol Cocaine" to be much less toxic than cocain. These men, however, did not verify the statement of its composition, and subsequent investigation by others brought out the fact that "Collosol Cocaine 1 per cent." contained but 0.26 per cent. cocain, and that its toxicity was in accord with the amount of cocain found. Those who investigated the action of drugs must recognize more fully than has often neen done in the past, that a study of a medicament is of no scientific value whenever the identity of the substance is not established (*Journal Indiana State Medical Association*, May 1919, p. 134).

Therapeutic Evidence: Has the medical profession learned to distinguish between real therapeutic evidence and chance observation? If so, the profession will not be impressed by certain testimonials for a widely advertised ointment. The wise physician who reads the testimonials will ask: Was it the "baking" or the proprietary ointment which produced the "remarkable results" in "rheumatic affections and ankylosis"? Was the "contracting arm chronic" benefited by time and friction or by the proprietary? How did the physician know that "anointing the nostrils" prevents attacks of influenza? Those who are inclined to give credit to drugs for naturally occurring events may be interested in the statement of a prominent chemist that he has been free from his periodical colds since he arranged for an inoculation with a "cold" vaccine but was prevented from keeping the appointment. (*Penn. Medical Journal*, May 1919, p. 524).

Dichloramine–T and Petrolatum Dressing for Burns: Torald Sollmann reports that solution of dichloramine–T in chlorcosane do not protect the large open surfaces of burns against mechanical irritation and access of air. On the contrary, the solution is absorbed by the dressing, which is then glued by the wound secretions and causes pain and injury when the dressing is changed. As a result of a study of the decomposition of dichloramine–T by different solvents, Sollmann proposes the use of an ointment of three parts of surgical paraffin and seven parts of liquid petrolatum as a protective dressing on wounds (burns) treated with dichloramine-T–chlorcosane solution. It may even be used as a basis for a dichloramine–T ointment (*Journal A. M. A.*, April 5, 1919, p. 992).

Stevens' Comsumption Cure: C. H. Stevens, a discredited London quack, has been attempting to exploit Canadian veterans at the Mountain Sanatorium for the treatment of pulmonary tuberculosis at Hamilton, Ont. The nostrum was claimed to contain "Umckaloabo root" and "Chijitse," but the analysis made for the British Medical Association showed it to contain no active drugs except alcohol and glycerine. The following is a brief history of this "cure": In 1904 Stevens was selling "Sacco" in Capetown, South Africa, but got into the courts and found it expedient to leave Capetown. In 1906, Stevens was in Johannesburg trading as the "South African Institute of Medicine" and selling his stuff as "Lungsava"; was twice convicted of violating the law and left for England. In 1907, Stevens was in London selling his "cure" and in 1910 was declared by the courts to be guilty of intentional fraud and his "cure" pronounced a quack remedy. In 1915 Stevens' "cure " appeared in the United States under the name of "U. C. Extract" exploited by the Umckaloabo Chemical Company of New York City. Today, Stevens is attempting to exploit tuberculous Canadian soldiers who have acquired the disease in the service of their country (*Journal A. M. A.*, April 5, 1919, p. 1018).

Surgical Solution of Chlorinated Soda (Dakin's Solution): According to New and Nonofficial Remedies, 1919, Surgical solution of chlorinated soda may be prepared: 1. By the electrolysis of a sodium chlorid solution. 2. By the action of chlorin on sodium carbonate. 3. By the interaction of chlorinated lime and sodium carbonate solutions with subsequent treatment with either boric acid or sodium bicarbonate to reduce the alkalinity (*Journal A. M. A.*, April 5, 1919, p. 1021).

Procain Anesthesia: There is no evidence of latent injury to the dental nerves from repeated injections of procain to control supersensitiveness of the teeth. If an isotonic solution is used and this solution made sterile by boiling, it is not probable that it will be injurious (*Journal A. M. A.*, April 8, p. 1022).

Iodex: According to Pharmacal Advance, a house organ extolling the products exploited by Menley and James, Iodex has all the virtues of free iodin without its drawbacks. The claim that a given proprietary represents all the desirable therapeutic properties of a drug but not its drawbacks has been so often proved unwarranted that the claims made for Iodex should receive scant consideration. The report of the A. M. A. Council on Pharmacy and Chemistry on Iodex included a report from the A. M. A. Chemical Laboratory which showed that Iodex, despite the advertising claims, contains no free iodin;—to be exact, when a test for free iodin was made on five specimens, four yielded only minute traces of iodin, while the fifth yielded none (*Journal Mo. State Medical Association*, April, 1919, p. 127).

Buttermilk Therapy: For reliable information with regard to new therapeutic measures and reliable brands of drugs proposed for them, New and Nonofficial Remedies should be consulted. This book contains a chapter which discusses the probable value of the Metchnikoff sour milk therapy. The book also describes those brands of preparations which the Council on Pharmacy and Chemistry found to be reliable and exploited recently (*Journal A. M. A.*, April 12, 1919, p. 1099).

The Advertising of Sal Hepatica: There are two ways of advertising a "patent medicine"—by direct advertisement to the public and by means of propaganda which will lead the medical profession to acquaint the public with it. Sal Hepatica is advertised by the indirect method (*Journal A. M. A.*, April 12, 1919, p. 1079).

Collosol Cocaine Not Admitted To N. N. R. Collosol Cocaine (Anglo-French Drug Co. Ldt., New York) is claimed to be a preparation containing 1 per cent, of cocain in colloidal form and is alleged to possess a remarkably low toxicity. However, the A. M. A. Chemical Laboratory found that a specimen contained not more than 0.4 per cent. of alkaloid; hence it does not have the composition claimed and is in effect misbranded. Further, in England it was conceded that the preparation was not an "absolute colloid" and that the declaration with regard to the percentage of cocain was incorrect (Barger, Dale and Durham reported that a specimen was found to contain but 0.25 per cent. of cocain). Without considering other objections, the Council on Pharmacy and Chemisrty declared Collosol Cocaine inadmissible to New and Nonofficial Remedies because its composition was not correctly declared (*Journal A. M. A.*, April 12, 1919, p. 1094).

Goldenrod and Hay Fever: In spring hay fever is caused chiefly by the pollens of grasses. The fall hay fever in the Northern, Eastern and Southern states is for the most part attributed to the pollens of ragweeds. In the Pacific and Rocky Mountain states they are replaced by the wormwoods. Schepperell has concluded that goldenrod does not cause hay fever (*Journal A. M. A.*, April 19, 1919, p. 1162).

Germany and The American Chemical Industry: The Alien Property Custodian has issued a report which, in part, is devoted to a discussion of the influence which Germany has had on the chemical industry of the United States. It outlines how the German government obtained a practical monopoly in the United States in dyes, fine chemicals and synthetic drugs. The report explains how by-products of the dye works were converted into explosives—trinitrotoluene, for instance—and the advantage which the production of these explosives gave to Germany as a military power. The report explains that in medicinal chemicals very little real manufacture existed in the United States. The report discusses the ramifications of the "Big Six"—the German concerns which controlled the dye industry—in American industrial life and describes how their American branches were shown to be enemy owned and therefore taken over by the custodian. The "Big Six" were: Badische Anilin and Soda Fabril, Farbenfabriken vorm. Friedr. Bayer and Co., Actien-Gesellschaft fur Anilin-Fabrikation, Farbwerke vorm. Meister Lucius and Bruning, Leopold Cassella, G. m. b. H., and Kalle and Co. Aktien-Gesellschaft. The Americam firms were: Badische Co. of New York, Bauer Chemical Company, Bayer and Co. (Inc.) Berlin Aniline Works, Casella Co., Farbwerke Hoechst Co., Heyden Chemical Works, Kalle and Company, Merck and Co., Roessler and Hasslacher Chemical Company and Synthetic Patents Co. (Inc.). The report closes with a description of a corporation to be known as the Chemical Foundation, Inc., which is to acquire by purchase the German patents which in the past have formed a colossal obstacle to the American dyestuff industry. The Alien Property Custodian has sold to this company for the sum of $250,000 approximately 4,500 patents (*Journal A. M. A.*, April 19, 1919, p. 1176).

Anthelmintics: The earth worm reacts with symptoms of toxicity to all clinical anthelmintics just as do the parasitic intestinal worms. This fact has enabled Torald Sollmann to reinvestigate the claims long made for certain drugs. Spigelia was found to have rather feeble toxicity, but fresh pumpkin seed and squash seed were quite highly efficient (*Journal A. M. A.*, April 26, 1919, p. 1228).

Annual Meeting of the Council on Pharmacy and Chemistry: Among the subjects considered at the recent meeting were: The Council decided to publish at an early date a report on unscientific and commercial propangada for nonspecific protein therapy. The Council appointed a committee to study the problems of serum and vaccine therapy with a view of publishing the evidence obtainable regarding both the value of, and also the dangers incident to, the use of serums and vaccines. A special committee was appointed to report on the present status of pollen extracts on the prophylaxic and treatment of hay fever. The Council adopted a resolution urging legislation which shall require the Public Health Service to extend its control of serums, vaccines, toxins and antitoxins to cover other potent remedies that are used hyperdomically or intravenously. The Council passed a resolution that the control of arsphenamine by the Public Health Service shall be continued and the price controlled by the government. The Council decided to describe in a separate section of New and Nonofficial Remedies proprietary preparations of therapeutic value which are so exploited as to be inadmissible to New and Nonfficial Remedies. A committee was appointed to establish fuller cooperation between teachers of therapeutics and pharmacology in medical schools and the Council. A committee was appointed to determine the present status of radium water therapy (*Journal A. M. A.*, April 26, 1919, p. 1243).

Veracolate Tablets: The Council on Pharmacy and Chemistry examined Veracolate (Marcy Co.) in 1915 and found it to be semisecret in composition, unscientific in combination and exploited under unwarranted claims (*Journal A. M. A.*, April 26, 1919, p. 1245).